SUPERO®

SUPERO® X8DA3
SUPERO® X8DAi

(Preliminary Draft)

USER'S MANUAL

Revision 1.0

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Manual Revision 1.0 (Draft 3)

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Preface

About This Manual

This manual is written for system integrators, PC technicians and knowledgeable PC users. It provides information for the installation and use of the SUPER® X8DA3/X8DAi motherboard. The SUPER® X8DA3/X8DAi supports the Intel Tylersburg-EP platform, the first dual-processing platform that supports the Intel QuickPath Interconnect Technology, providing the next generation point-to-point system interface, replacing the current Front Side Bus. With the Tylersburg-EP platform built-in, the X8DA3/X8DAi offers substantial enhancement in system performance with increased bandwidth and unprecedented scalability optimized for workstations, high-end CAD systems and intensive applications. Please refer to our web site (http://www.supermicro.com/products/) for updates on supported processors. This product is intended to be professionally installed.

Manual Organization

Chapter 1 describes the features, specifications and performance of the motherboard and provides detailed information about the chipset.

Chapter 2 provides hardware installation instructions. Read this chapter when installing the processor, memory modules and other hardware components into the system. If you encounter any problems, see **Chapter 3**, which describes troubleshooting procedures for the video, the memory and the system setup stored in the CMOS.

Chapter 4 includes an introduction to BIOS and provides detailed information on running the CMOS Setup utility.

Appendix A lists BIOS POST Error Codes**. Appendix B** and **Appendix C** provide the Windows OS and Other Software Installation Instructions.

Conventions Used in the Manual

Special attention should be given to the following symbols for proper installation and to prevent damage done to the components or injury to yourself:

Danger/Caution: Instructions to be strictly followed to prevent catastrophic system failure or to avoid bodily injury.

Warning: Important information given to ensure proper system installation or to prevent damage to the components.

Note: Additional Information given to differentiate various models or to ensure correct system setup.

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Chapter 1

Introduction

1-1 Overview

Checklist

Congratulations on purchasing your computer motherboard from an acknowledged leader in the industry. Supermicro boards are designed with the utmost attention to detail to provide you with the highest standards in quality and performance. Check that the following items have all been included with your motherboard. If anything listed here is damaged or missing, contact your retailer.

The following items are included in the retail box.

- One (1) Supermicro Mainboard
- Two (2) SAS cable for SATA/SAS Backplane (CBL-0097L-02) (For X8DA3)
- One (1) floppy ribbon cable (CBL-0022L)
- Four (4) Serial ATA cables (CBL-0044Lx4) (For X8DA3)
- Six (6) Serial ATA cables (CBL-0044Lx6) (For X8DAi)
- One (1) I/O backpanel shield (MCP-260-74301-001)
- One (1) Supermicro CD containing drivers and utilities
- One (1) User's/BIOS Manual (MNL#1031)

1-2 Contacting Supermicro

Headquarters

Address:	Super Micro Computer, Inc.
	980 Rock Ave.
	San Jose, CA 95131 U.S.A.
Tel:	+1 (408) 503-8000
Fax:	+1 (408) 503-8008
Email:	marketing@supermicro.com (General Information)
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Web Site:	www.supermicro.com

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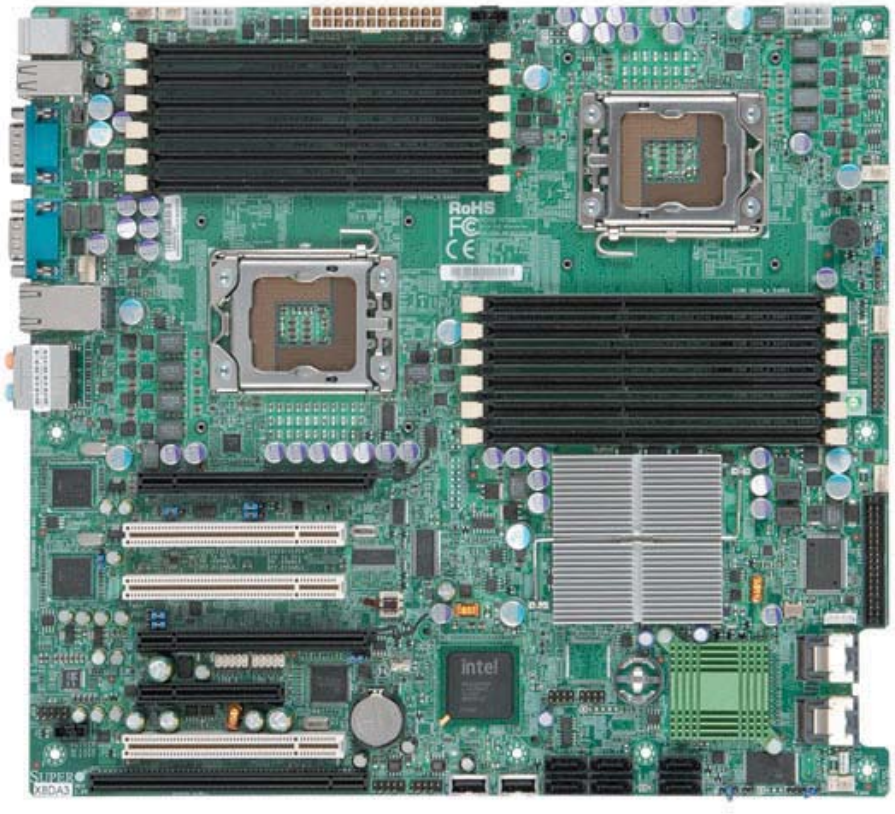
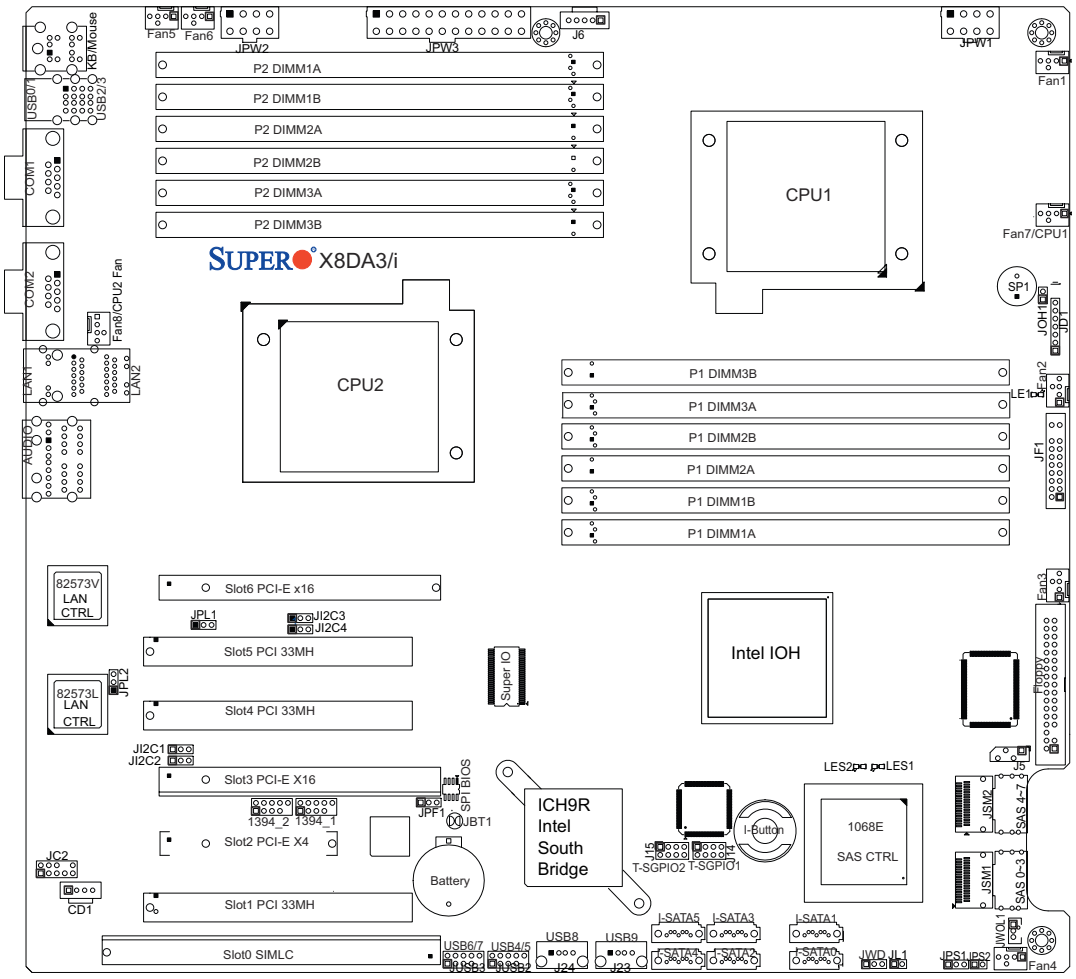
Web Site:	www.supermicro.com.tw
Technical Support:	
Email:	support@supermicro.com.tw
Tel:	886-2-8228-1366, ext.132 or 139

SUPER® X8DA3/X8DAi Image



Note: The drawings and pictures shown in this manual were based on the latest PCB Revision available at the time of publishing of the manual. The motherboard you've received may or may not look exactly the same as the graphics shown in the manual.

SUPER® X8DA3/X8DAi Motherboard Layout



Notes:

1. Jumpers not indicated are for test purposes only.
2. See Chapter 2 for detailed information on jumpers, I/O ports and JF1 front panel connections.
3. "■" indicates the location of Pin 1.
4. When LE1 LED is on, the onboard power connection is on. Make sure to unplug the power cables before removing or installing components.

X8DA3/X8DAi Quick Reference

Jumper	Description	Default Setting
JBT1	CMOS Clear	(See Section 5-10)
JI²C1/JI²C2	SMB to PCI-Express Slots	2-3 (Disabled)
JI²C3/JI²C4	SMB to PCI Slots	2-3 (Disabled)
JPF1	1394_1/1394_2 Enable	1-2 (Normal)
JPL1/JPL2	LAN1/2 Enable	Pins 1-2 (Enabled)
JPS1	SAS Enable	Pins 1-2 (Enabled)
JPS2	SAS RAID Enable	Closed (SR RAID Enabled)
JWD	Watch Dog	Pins 1-2 (Reset)

Connector	Description
1394_1/1394_2	1394 Connection Headers
Audio/CD1/JC2	Audio Input_Output_Mic/CD-ROM/HD Audio Headers
COM1/COM2	COM1/COM2 Serial Port/Header
FAN 1-8	System/CPU Fan Headers (Fans 7~8: CPU Fans)
Floppy	Floppy Disk Drive Connector
J5	IPMB I²C Header (for IPMI Card)
J6	Power Supply SMBbus I²C Header
JD1	Speaker Header
JF1	Front Panel Connector
JL1	Chassis Intrusion Header
JOH1	Overheat LED Header
JPW1/JPW2	+12V 8-pin Secondary Power Connector
JPW3	24-pin ATX Main Power Connector
JWOL1	Wake-On-LAN Header
LAN1/2	Gigabit Ethernet (RJ45) Ports
I-SATA0 ~ I-SATA5	(Intel South Bridge) SATA Ports
SIMLC	(Low Profile) SIMLC IPMI 2.0 Socket
T-SGPIO-1/T-SGPIO-2	Serial General Purpose Input/Output Headers
(B/P) USB0/1/2/3	(Back Panel) Universal Serial Bus (USB) Ports
F/P USB 4/5, 6/7, 8, 9	Front Panel Accessible USB Headers

LED	Description
LE1	Onboard Standby PWR warning LED Indicator
LES1/LES2	SAS LED Indicators

Motherboard Features

CPU

- Two Intel® Nehalem-EP (LGA 1336) processors, each processor supporting two full-width Intel QuickPath Interconnect links with a total of up to 51.2 GB/s Data Transfer Rate (6.4 GB/s per direction)

Memory

- Twelve 240-pin DIMM sockets support up to 96 GB of DDR3 Registered ECC Memory (See Section 2-3 in Chapter 2 for DIMM Slot Population.)

Chipset

- Intel Tylersburg chipset, including: the Tylersburg Hub (IOH-36D) and the ICH9R.

Expansion Slots

- Two PCI-E x16 slot (Slot3 and Slot6)
- One PCI-E x4 slot (Slot2)
- Three 32-bit PCI 33 slot (Slot1, Slot4 and Slot5)
- One SIMLC IPMI Slot (Slot0)

BIOS

- 32 Mb AMI SPI Flash ROM
- PCI 2.2, ACPI 1.0/2.0/3.0, Plug and Play (PnP), DMI 2.3, RTC (Real Time Clock) Wakeup, USB Keyboard support, and SMBIOS 2.3

PC Health Monitoring

- Onboard voltage monitors for CPU cores, chipset voltage, Memory voltage, +3.3V, +3.3V Standby, +5V, +5V Standby, +12V, –12V and Vbatt
- Fan status monitor with firmware control
- CPU/chassis temperature monitors
- Platform Environment Control Interface (PECI) ready
- Thermal Monitor 2 (TM2) support
- CPU fan auto-off in sleep mode
- CPU slow-down on temperature overheat
- Pulse Width Modulation (PWM) Fan Control
- CPU thermal trip support for processor protection, power LED
- Power-up mode control for recovery from AC power loss
- Auto-switching voltage regulator for CPU cores
- System overheat/Fan Fail LED Indicator and control
- Chassis intrusion detection
- System resource alert via Supero Doctor III

ACPI Features

- Slow blinking LED for suspend state indicator
- Main switch override mechanism
- ACPI Power Management
- Keyboard Wakeup from Soft-off

Onboard I/O

- Intel ICH9R supports six SATA2 ports (with RAID0, RAID1, RAID10, RAID5 supported in the Windows OS Environment)
- LSI 1068E supports eight SAS ports (For X8DA3)
- One SIMLC IPMI socket
- Intel 82573V and 82573L Gigabit Ethernet controllers support dual Giga-bit LAN ports
- One floppy port interface
- Two COM ports(1 header, 1 port)
- PS/2 mouse and PS/2 keyboard ports
- Up to ten USB 2.0 (Universal Serial Bus) (4 Ports, 2 Front Headers, and 2 Type A Headers)
- Super I/O: Winbond W83627HG
- High Definition 7.1 Audio with Line-in, Line-out and Microphone
- Two TI 1394 ports

Other

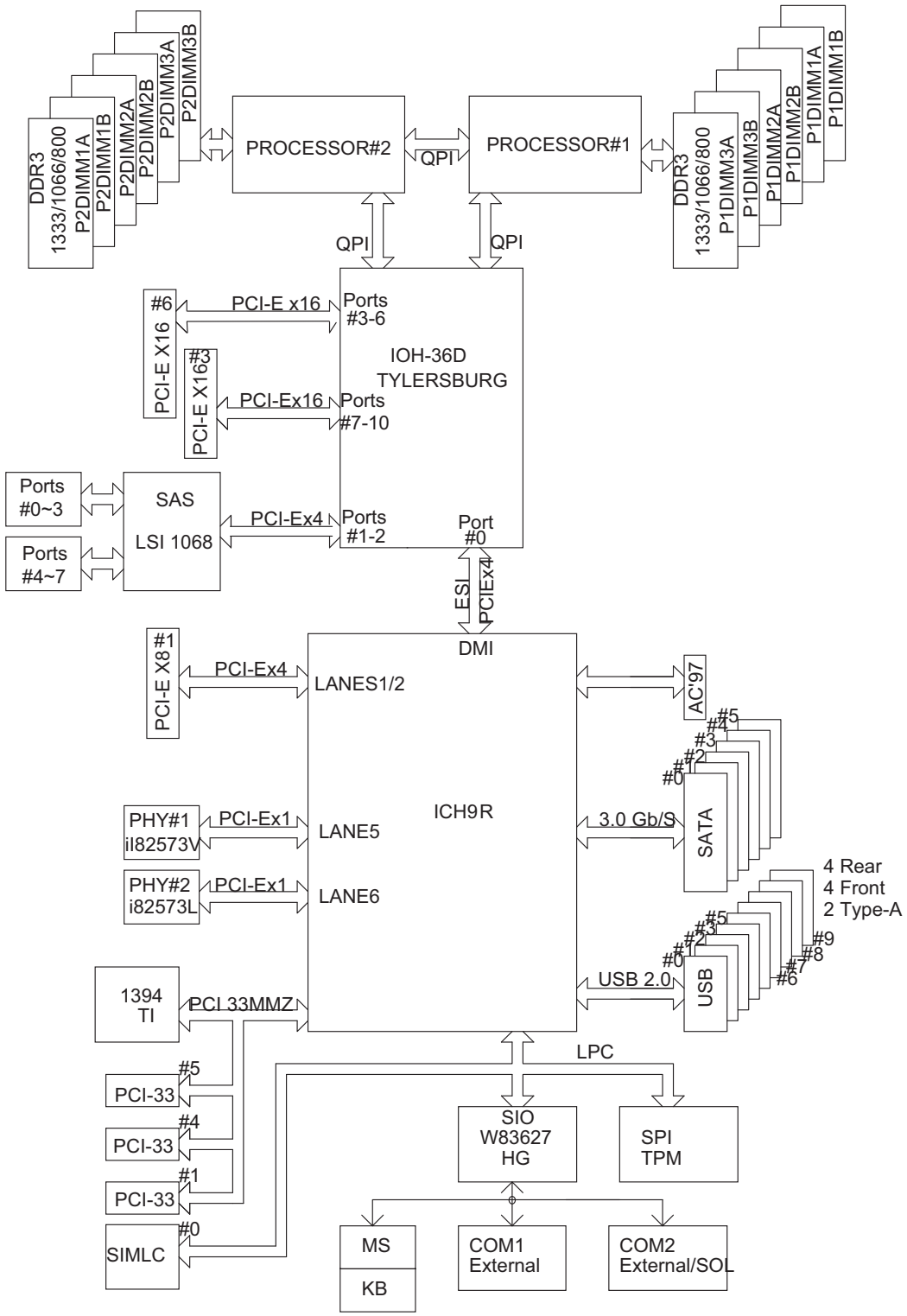
- External modem ring-on
- Wake-on-LAN (WOL)
- Console redirection
- Onboard Fan Speed Control by Thermal Management via BIOS

CD/Diskette Utilities

- BIOS flash upgrade utility and device drivers

Dimensions

- Ext. ATX 13.05" (L) x 12.075" (W) (331.47 mm x 306.71 mm)



Block Diagram of the Tylersburg-EP Platform

Note: This is a general block diagram. Please see the previous Motherboard Features pages for details on the features of each motherboard.

1-3 Chipset Overview

Built upon the functionality and the capability of the Tylersburg-EP platform, the X8DA3/X8DAi motherboard provides the performance and feature set required for dual-processor-based high-end systems with configuration options optimized for workstations, high-end CAD systems, and intensive applications. The Tylersburg-EP platform consists of the Nehalem-EP (LGA 1336) processor, the Tylersburg IOH (IOH-D36), and the South Bridge (ICH9R). With the Intel QuickPath interconnect controller built in the processor, the Tylersburg-EP platform is the first dual-processing platform to offer the next generation point-to-point system interconnect interface, replacing the current Front Side Bus Technology, providing substantial system performance enhancement by utilizing serial link interconnections, allowing for increased bandwidth and scalability.

The IOH connects to each processor through an independent QuickPath Interconnect link. Each link consists of 20 pairs of unidirectional differential lanes for transmission and receiving in addition to a differential forwarded clock. A full-width QuickPath interconnect link pair provides 84 signals. Each processor supports two QuickPath link, one going to the other processor and the other to the Tylersburg IOH-36D.

The Tylersburg IOH-36D supports up to 36 PCI Express Gen2 lanes, and the IOH-36D supports peer-to-peer read and write transactions. The ICH9R provides up to 6 PCI-Express ports, six SATA ports and 10 USB connections.

In addition, the Tylersburg-EP platform also offers a wide range of RAS (Reliability, Availability and Serviceability) features. These features include memory interface ECC, x4/x8 Single Device Data Correction (SDDC), Cyclic Redundancy Check (CRC), parity protection, out-of-band register access via SMBus, memory mirroring, memory sparing, and Hot-plug support on the PCI-Express Interface.

Nehalem-EP Processor and Tylersburg IOH Features

- Four processor cores in each processor with 8MB shared cache among cores
- Two full-width Intel QuickPath interconnect links, up to 6.4 GT/s of data transfer rate in each direction
- Virtualization Technology, Integrated Management Engine supported
- Point-to-point cache coherent interconnect, Fast/narrow unidirectional links, and Concurrent bi-directional traffic
- Error detection via CRC and Error correction via Link level retry

1-4 Special Features

Recovery from AC Power Loss

BIOS provides a setting for you to determine how the system will respond when AC power is lost and then restored to the system. You can choose for the system to remain powered off (in which case you must hit the power switch to turn it back on) or for it to automatically return to a power- on state. See the Advanced BIOS Setup section to change this setting. The default setting is **Last State**.

1-5 PC Health Monitoring

This section describes the PC health monitoring features of the X8DA3/X8DAi. All have an onboard System Hardware Monitor chip that supports PC health monitoring. An onboard voltage monitor will scan these onboard voltages continuously: CPU Core, Chipset Voltage, Memory Voltage, +5V, +3.3V, +3.3V Standby, +5V Standby, +12V, −12V and VBatt. Once a voltage becomes unstable, a warning is given or an error message is sent to the screen. Users can adjust the voltage thresholds to define the sensitivity of the voltage monitor.

Fan Status Monitor with Firmware Control

The PC health monitor can check the RPM status of the cooling fans. The onboard CPU and chassis fans are controlled by Thermal Management via BIOS (under Hardware Monitoring in the Advanced Setting).

Environmental Temperature Control

The thermal control sensor monitors the CPU temperature in real time and will turn on the thermal control fan whenever the CPU temperature exceeds a user-defined threshold. The overheat circuitry runs independently from the CPU. Once it detects that the CPU temperature is too high, it will automatically turn on the thermal fan control to prevent any overheat damage to the CPU. The onboard chassis thermal circuitry can monitor the overall system temperature and alert users when the chassis temperature is too high.

CPU Fan Auto-Off in Sleep Mode

The CPU fan becomes active when the power is turned on. It continues to operate when the system enters the Standby mode. When in the sleep mode, the CPU will not run at full power, thereby generating less heat.

CPU Overheat LED and Control

This feature is available when the user enables the CPU overheat warning function in the BIOS. This allows the user to define an overheat temperature. When the CPU temperature passes this threshold, both the overheat fan and the warning LED are triggered.

System Resource Alert

This feature is available when used with Supero Doctor III in the Windows OS environment or used with Supero Doctor II in Linux. Supero Doctor is used to notify the user of certain system events. For example, you can also configure Supero Doctor to provide you with warnings when the system temperature, CPU temperatures, voltages and fan speeds go beyond a pre-defined range.

1-6 ACPI Features

ACPI stands for Advanced Configuration and Power Interface. The ACPI specification defines a flexible and abstract hardware interface that provides a standard way to integrate power management features throughout a PC system, including its hardware, operating system and application software. This enables the system to automatically turn on and off peripherals such as CD-ROMs, network cards, hard disk drives and printers.

In addition to enabling operating system-directed power management, ACPI provides a generic system event mechanism for Plug and Play and an operating system-independent interface for configuration control. ACPI leverages the Plug and Play BIOS data structures while providing a processor architecture-independent implementation that is compatible with both Windows 2000 and Windows 2003 Operating Systems.

Slow Blinking LED for Suspend-State Indicator

When the CPU goes into a suspend state, the chassis power LED will start blinking to indicate that the CPU is in suspend mode. When the user presses any key, the CPU will wake-up and the LED will automatically stop blinking and remain on.

Main Switch Override Mechanism

When an ATX power supply is used, the power button can function as a system suspend button to make the system enter a SoftOff state. The monitor will be suspended and the hard drive will spin down. Pressing the power button again will cause the whole system to wake-up. During the SoftOff state, the ATX power supply provides power to keep the required circuitry in the system "alive." In case

the system malfunctions and you want to turn off the power, just press and hold the power button for 4 seconds. This option can be set in the Power section of the BIOS Setup routine.

Wake-On-LAN (WOL)

Wake-On-LAN is defined as the ability of a management application to remotely power up a computer that is powered off. Remote PC setup, up-dates and asset tracking can occur after hours and on weekends so that daily LAN traffic is kept to a minimum and users are not interrupted. The motherboard has a 3-pin header (WOL) to connect to the 3-pin header on a Network Interface Card (NIC) that has WOL capability. In addition, an onboard LAN controller can also support WOL without any connection to the WOL header. The 3-pin WOL header is to be used with a LAN add-on card only.

Note: Wake-On-LAN requires an ATX 2.01 (or above) compliant power supply.

1-7 Power Supply

As with all computer products, a stable power source is necessary for proper and reliable operation. It is even more important for processors that have high CPU clock rates.

The X8DA3/X8DAi can accommodate 24-pin ATX power supplies. Although most power supplies generally meet the specifications required by the CPU, some are inadequate. In addition, the 12V 8-pin power connections are also required to ensure adequate power supply to the system. Also your power supply must supply 1.5A for the Ethernet ports.

Note: The + 12V 8-pin CPU Power Connector (JPW2) is also required to support Intel 64-bit CPUs. Failure to provide this extra power will result in CPU PWR Failure. See Section 2-5 for details on connecting the power supply.

It is strongly recommended that you use a high quality power supply that meets ATX power supply Specification 2.02 or above. It must also be SSI compliant (For more information, please refer to the web site at http://www.ssiforum.org/). Additionally, in areas where noisy power transmission is present, you may choose to install a line filter to shield the computer from noise. It is recommended that you also install a power surge protector to help avoid problems caused by power surges.

1-8 Super I/O

The disk drive adapter functions of the Super I/O chip include a floppy disk drive controller that is compatible with industry standard 82077/765, a data separator, write pre-compensation circuitry, decode logic, data rate selection, a clock generator, drive interface control logic and interrupt and DMA logic. The wide range of functions integrated onto the Super I/O greatly reduces the number of components required for interfacing with floppy disk drives. The Super I/O supports 360 K, 720 K, 1.2 M, 1.44 M or 2.88 M disk drives and data transfer rates of 250 Kb/s, 500 Kb/s or 1 Mb/s. It also provides two high-speed, 16550 compatible serial communication ports (UARTs). Each UART includes a 16-byte send/receive FIFO, a programmable baud rate generator, complete modem control capability and a processor interrupt system. Both UARTs provide legacy speed with baud rate of up to 115.2 Kbps as well as an advanced speed with baud rates of 250 K, 500 K, or 1 Mb/s, which support higher speed modems.

The Super I/O provides functions that comply with ACPI (Advanced Configuration and Power Interface), which includes support of legacy and ACPI power management through an SMI or SCI function pin. It also features auto power management to reduce power consumption.

Notes

Chapter 2

Installation

2-1 Static-Sensitive Devices

Electrostatic Discharge (ESD) can damage electronic components. To prevent damage to your system board, it is important to handle it very carefully. The following measures are generally sufficient to protect your equipment from ESD.

Precautions

- Use a grounded wrist strap designed to prevent static discharge.
- Touch a grounded metal object before removing the board from the antistatic bag.
- Handle the board by its edges only; do not touch its components, peripheral chips, memory modules or gold contacts.
- When handling chips or modules, avoid touching their pins.
- Put the motherboard and peripherals back into their antistatic bags when not in use.
- For grounding purposes, make sure your computer chassis provides excellent conductivity between the power supply, the case, the mounting fasteners and the motherboard.
- Use only the correct type of onboard CMOS battery as specified by the manufacturer. Do not install the onboard battery upside down to avoid possible explosion.

Unpacking

The motherboard is shipped in antistatic packaging to avoid static damage. When unpacking the board, make sure the person handling it is static protected.

2-2 Processor and Heatsink Installation

When handling the processor package, avoid placing direct pressure on the label area of the fan.

Notes:

1. Always connect the power cord last and always remove it before adding, removing or changing any hardware components. Make sure that you install the processor into the CPU socket before you install the CPU heatsink.

2. Intel's boxed Xeon CPU package contains the CPU fan and heatsink assembly. If you buy a CPU separately, make sure that you use only Intel-certified multi-directional heatsink and fan.

3. Make sure to install the motherboard into the chassis before you install the CPU heatsink and fan.)

4. When purchasing a Nehalem-EP processor or when receiving a motherboard with a Nehalem-EP processor pre-installed, make sure that the CPU plastic cap is in place, and none of the CPU pins are bent; otherwise, contact the retailer immediately.

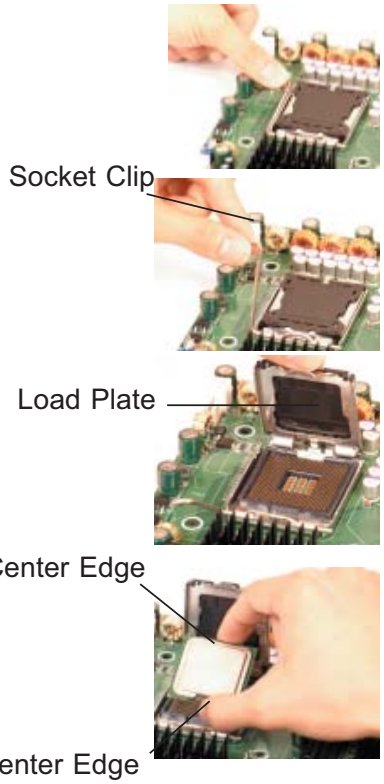
5. Refer to the MB Features Section for more details on CPU support.

Installing an LGA Processor

1. Press the socket clip to release the load plate, which covers the CPU socket, from its locking position.

2. Gently lift the socket clip to open the load plate.

3. Use your thumb and your index finger to hold the CPU at the North Center Edge and the South Center Edge of the CPU.



4. Align CPU Pin1 (the CPU corner marked with a triangle) against the socket corner marked with a triangle cutout.

5. Align the CPU key, the semi-circle cutout below a gold dot, against the socket key, which is the notch on the same side of the triangle cutout on the socket.

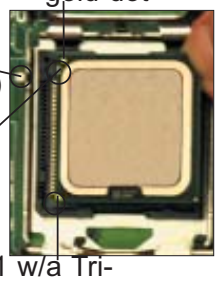
6. Once aligned, carefully lower the CPU straight down into the socket. (Do not drop the CPU on the socket. Do not move the CPU horizontally or vertically. Do not rub the CPU against the surface or against any pins of the socket to avoid damaging the CPU or the socket.)

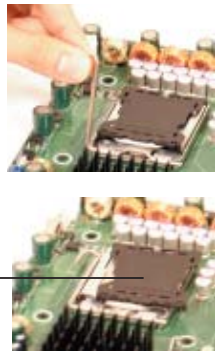
7. With the CPU inside the socket, inspect the four corners of the CPU to make sure that the CPU is properly installed.

8. Use your thumb to gently push the socket clip down to the clip lock.

9. If the CPU is properly installed into the socket, the plastic cap will be automatically released from the load plate when the clip is pushed in the clip lock. Remove the plastic cap from the motherboard.

Warning: Please save the plastic cap. The motherboard must be shipped with the plastic cap properly installed to protect the CPU socket pins. Shipment without the plastic cap properly installed will cause damage to the socket pins.





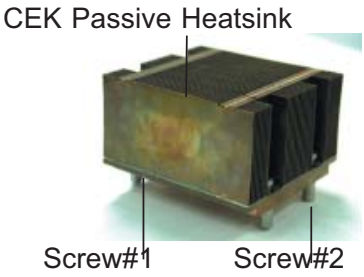
Installing a CEK Heatsink

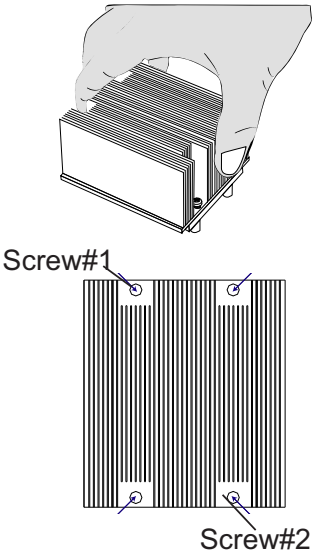
1. Do not apply any thermal grease to the heatsink or the CPU die because the required amount has already been applied.

2. Place the heatsink on top of the CPU so that the four mounting holes are aligned with those on the retention mechanism.

3. Screw in two diagonal screws (ie the #1 and the #2 screws) until just snug (-do not fully tighten the screws to avoid possible damage to the CPU.)

4. Finish the installation by fully tightening all four screws.





Un-installing the Heatsink

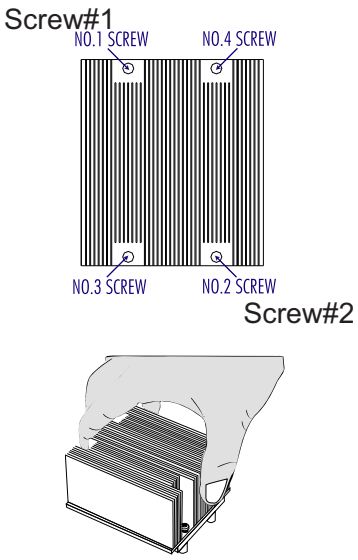
Warning: We do not recommend that the CPU or the heatsink be removed. However, if you do need to uninstall the heatsink, please follow the instructions below to uninstall the heatsink to prevent damage done to the CPU or the CPU socket.

1. Unscrew and remove the heatsink screws from the motherboard in the sequence as show in the picture on the right.

2. Hold the heatsink as shown in the picture on the right and gently wriggle the heatsink to loosen it from the CPU. (Do not use excessive force when wriggling the heatsink.)

3. Once the CPU is loosened, remove the heatsink from the CPU socket.

4. Clean the surface of the CPU and the heatsink to get rid of the old thermal grease. Reapply the proper amount of thermal grease on the surface before you re-install the CPU and the heatsink.



Mounting the Motherboard in the Chassis

All motherboards have standard mounting holes to fit different types of chassis. Make sure that the locations of all the mounting holes for both motherboard and chassis match. Make sure that the metal standoffs click in or are screwed in tightly. Then, use a screwdriver to secure the motherboard onto the motherboard tray.

Note: some components are very close to the mounting holes. Please take precautionary measures to avoid damaging these components when you install the motherboard to the chassis.

2-3 Memory Installation

Note: Check the Supermicro web site for recommended memory modules.

CAUTION

Exercise extreme care when installing or removing DIMM modules to prevent any possible damage. Also note that the memory is interleaved to improve performance (See step 1).

DIMM Installation

1. Insert the desired number of DIMMs into the memory slots, starting with DIMM #1A. When populating two DIMM modules within a channel, always start with Bank1 first. For optimal memory performance, please install a pair (or pairs) of memory modules of the same type and same speed at a time with the maximum of 12 modules. (See the Memory Installation Table Below.)

2. Insert each DIMM module vertically into its slot. Pay attention to the notch along the bottom of the module to prevent inserting the DIMM module incorrectly.

3. Gently press down on the DIMM module until it snaps into place in the slot. Repeat for all modules.

Memory Support

The X8DA3/X8DAi supports up to 96 GB Registered ECC DDR3 1333 MHz/1066 MHz/800 MHz in 12 DIMMs.

DIMM Module Population Configuration

For memory to work properly, follow the tables below for memory installation:

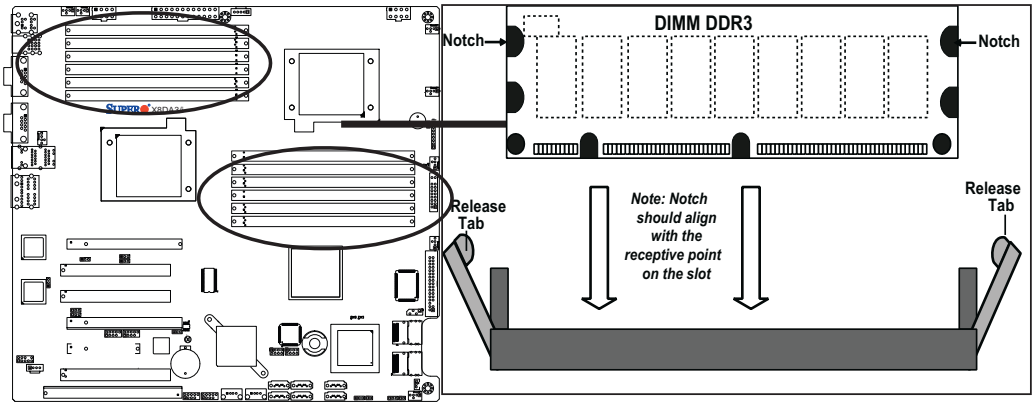
DIMM Population Table				
DIMM Slots per Channel	**DIMMs Populated per Channel**	**DIMM Type (Reg.= Registered)**	**Speeds (in MHz)**	**Ranks per DIMM (any combination; SR=Single Rank, DR=Dual Rank, QR=Quad Rank)**
2	1	Reg. DDR3 ECC	800,1066,1333	SR, DR
2	1	Reg. DDR3 ECC	800,1066,	QR
2	2	Reg. DDR3 ECC	800,1066,1333	SR, DR
2	2	Reg. DDR3 ECC	800,1066	SR, DR, QR

Note 1: Due to OS limitations, some operating systems may not show more than 4 GB of memory.

Note 2: Due to memory allocation to system devices, the amount of memory that remains available for operational use will be reduced when 4 GB of RAM is used. The reduction in memory availability is disproportional. (See the following Memory Availability Table.)

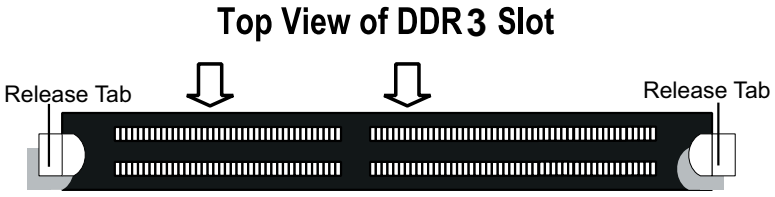
Possible System Memory Allocation & Availability		
System Device	Size	Physical Memory Remaining (-Available) (4 GB Total System Memory)
Firmware Hub flash memory (System BIOS)	1 MB	3.99 GB
Local APIC	4 KB	3.99 GB
Area Reserved for the chipset	2 MB	3.99 GB
I/O APIC (4 Kbytes)	4 KB	3.99 GB
PCI Enumeration Area 1	256 MB	3.76 GB
PCI Express (256 MB)	256 MB	3.51 GB
PCI Enumeration Area 2 (if needed) -Aligned on 256-MB boundary-	512 MB	3.01 GB
VGA Memory	16 MB	2.85 GB
TSEG	1 MB	2.84 GB
Memory available for the OS & other applications		2.84 GB

Installing and Removing DIMMs



To Install: Insert module vertically and press down until it snaps into place. Pay attention to the alignment notch at the bottom.

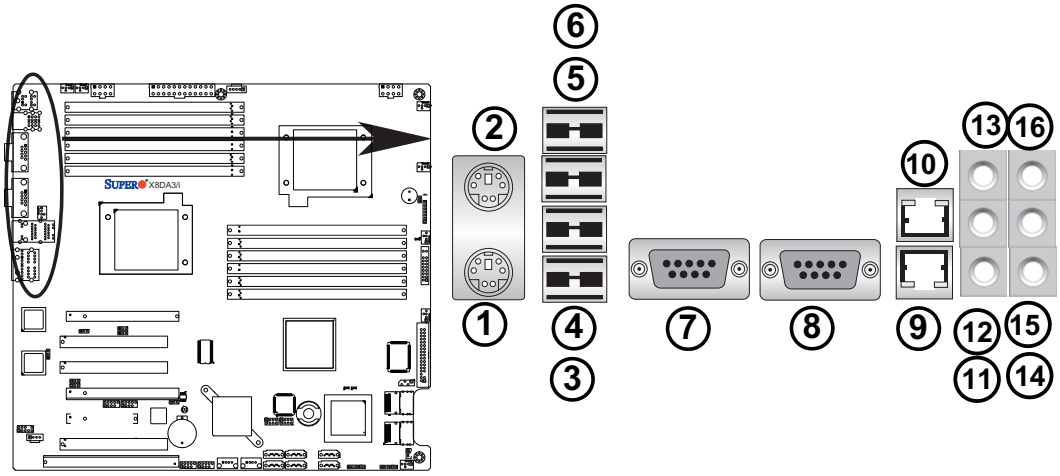
To Remove:
Use your thumbs to gently push the release tabs near both ends of the module. This should release it from the slot.



2-4 Control Panel Connectors/IO Ports

The I/O ports are color coded in conformance with the PC 99 specification. See the picture below for the colors and locations of the various I/O ports.

1. Back Panel Connectors/IO Ports



Back Panel I/O Port Locations and Definitions

Back Panel Connectors

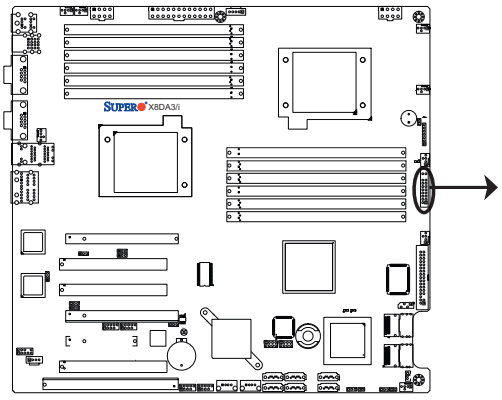
1. Keyboard (Purple)
2. PS/2 Mouse (Green)
3. Back Panel USB Port 0
4. Back Panel USB Port 1
5. Back Panel USB Port 2
6. Back Panel USB Port 3
7. COM Port 1 (Turquoise)
8. COM Port 1 (Turquoise)
9. Gigabit LAN 1
10. Gigabit LAN 2
11. Side_Surround (Grey)
12. Back_Surround (Black)
13. CEN/LFE (Orange)
14. Microphone-In (Pink)
15. Front (Green)
16. Line-In (Blue)

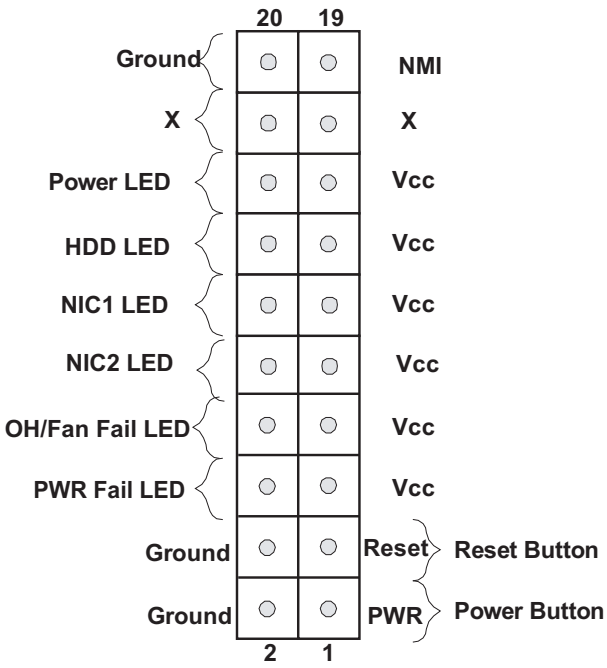
(See Section 2-5 for details.)

2. Front Control Panel

JF1 contains header pins for various buttons and indicators that are normally located on a control panel at the front of the chassis. These connectors are designed specifically for use with Supermicro server chassis. See the figure below for the descriptions of the various control panel buttons and LED indicators. Refer to the following section for descriptions and pin definitions.

JF1 Header Pins





3. Front Control Panel Pin Definitions

NMI Button

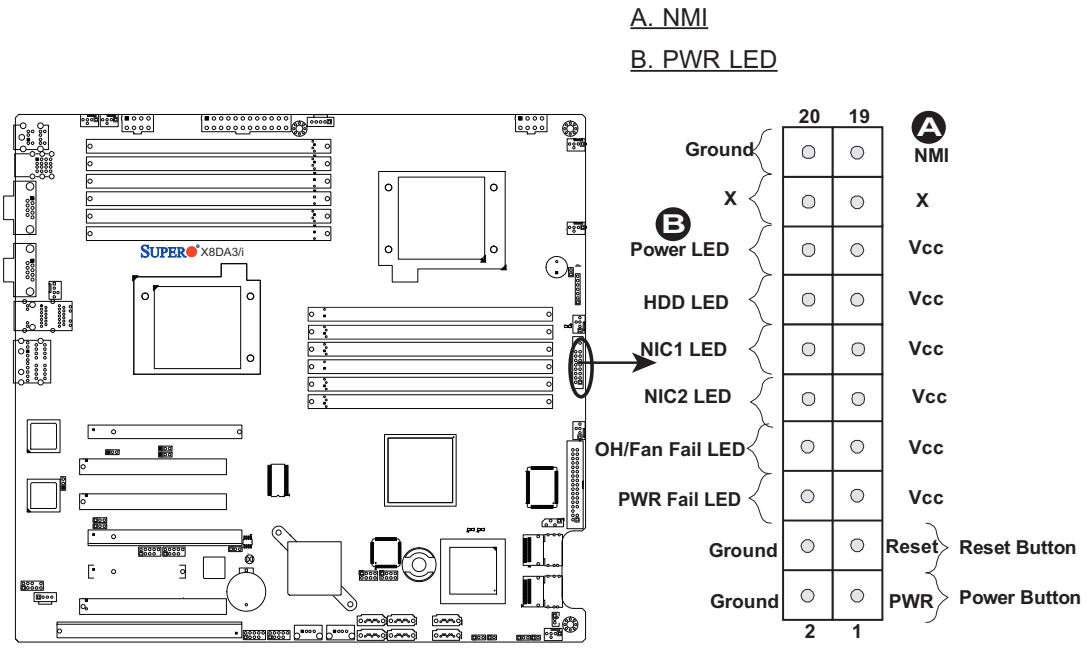
The non-maskable interrupt button header is located on pins 19 and 20 of JF1. Refer to the table on the right for pin definitions.

NMI Button Pin Definitions (JF1)	
Pin#	Definition
19	Control
20	Ground

Power LED

The Power LED connection is located on pins 15 and 16 of JF1. Refer to the table on the right for pin definitions.

Power LED Pin Definitions (JF1)	
Pin#	Definition
15	+5V
16	Ground



HDD LED

The HDD LED connection is located on pins 13 and 14 of JF1. Attach a hard drive LED cable here to display disk activity (for any hard drive activities on the system, including SAS, Serial ATA and IDE). See the table on the right for pin definitions.

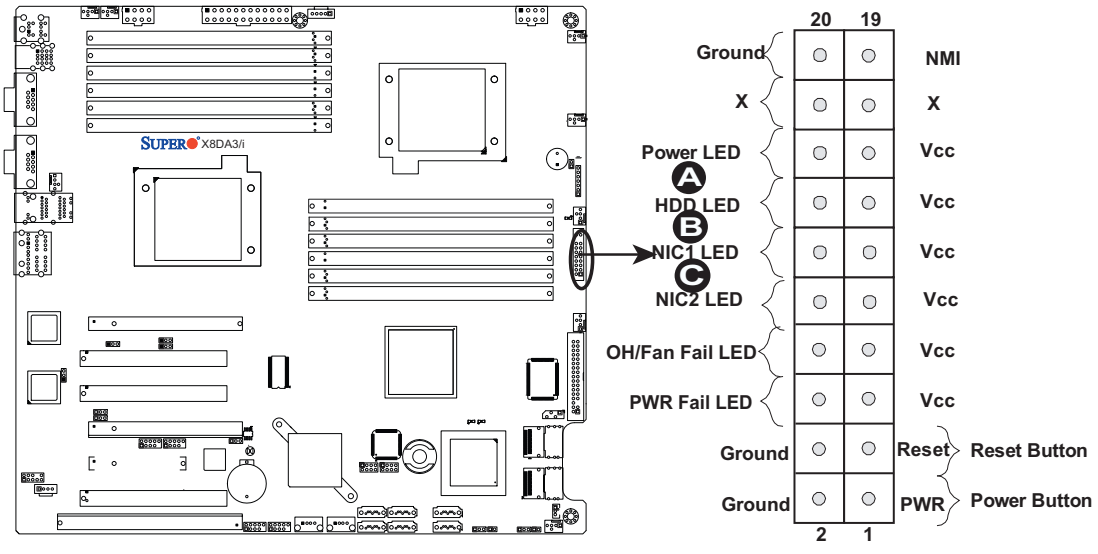
HDD LED Pin Definitions (JF1)	
Pin#	Definition
13	+5V
14	HD Active

NIC1/NIC2 LED Indicators

The NIC (Network Interface Controller) LED connection for GLAN port 1 is located on pins 11 and 12 of JF1, and the LED connection for GLAN Port 2 is on Pins 9 and 10. Attach the NIC LED cables to display network activity. Refer to the table on the right for pin definitions.

GLAN1/2 LED Pin Definitions (JF1)	
Pin#	Definition
9/11	Vcc
10/12	Ground

A. HDD LED
B. NIC1 LED
C. NIC2 LED



Overheat (OH)/Fan Fail LED

Connect an LED Cable to the OH/Fan Fail connection on pins 7 and 8 of JF1 to provide advanced warnings of chassis overheating or fan failure. Refer to the table on the right for pin definitions.

OH/Fan Fail LED Pin Definitions (JF1)	
Pin#	Definition
7	Vcc
8	Ground

OH/Fan Fail Indicator Status	
State	Definition
Off	Normal
On	Overheat
Flash-ing	Fan Fail

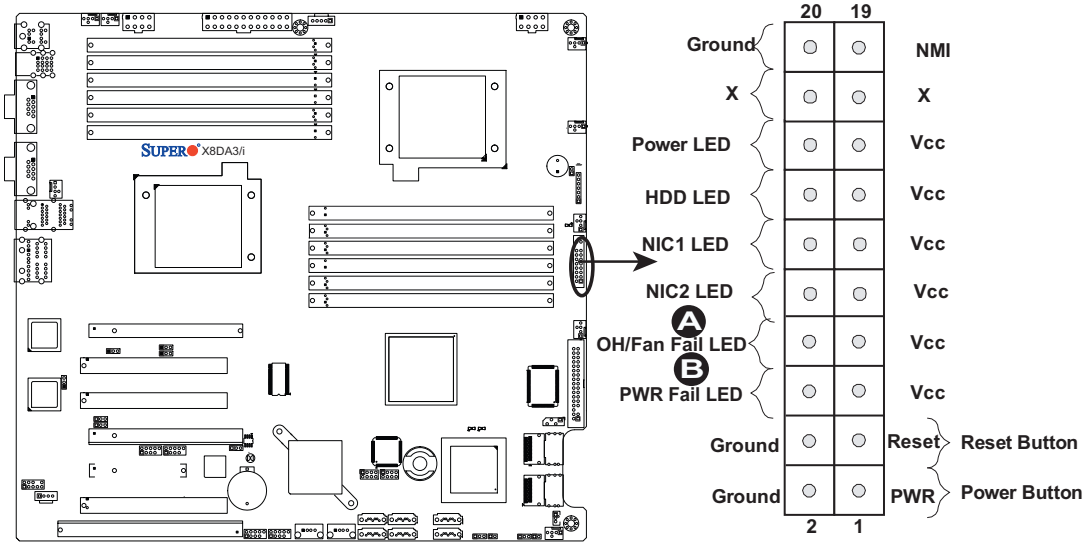
Power Fail LED

The Power Fail LED connection is located on pins 5 and 6 of JF1. Refer to the table on the right for pin definitions.

PWR Fail LED Pin Definitions (JF1)	
Pin#	Definition
5	Vcc
6	Ground

A. OH/Fan Fail LED

B. PWR Supply Fail



Reset Button

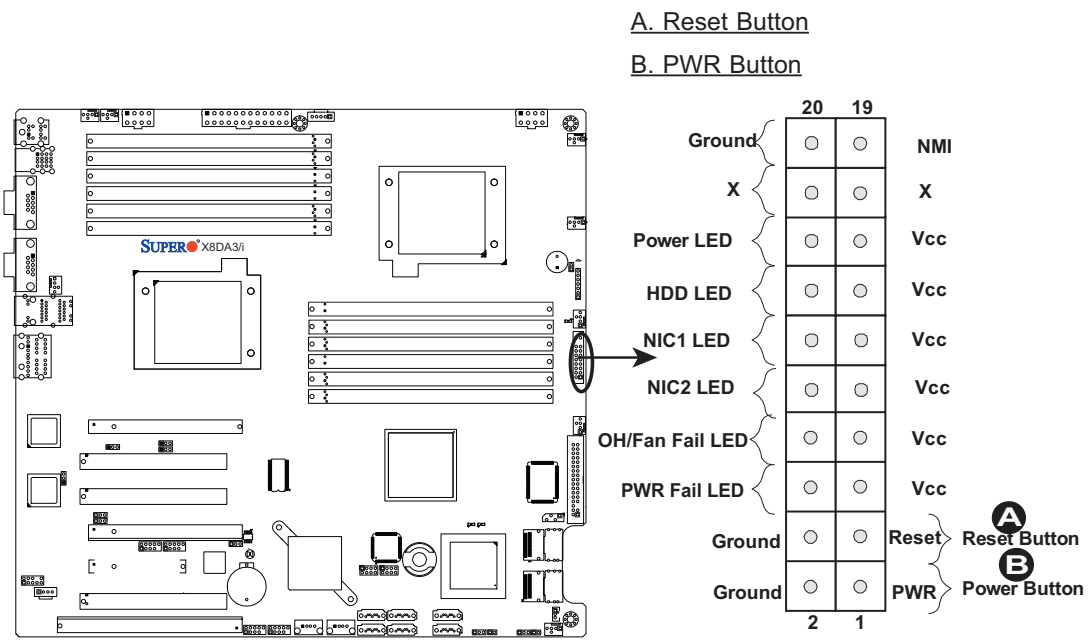
The Reset Button connection is located on pins 3 and 4 of JF1. Attach it to a hardware reset switch on the computer case. Refer to the table on the right for pin definitions.

Reset Button Pin Definitions (JF1)	
Pin#	Definition
3	Reset
4	Ground

Power Button

The Power Button connection is located on pins 1 and 2 of JF1. Momentarily contacting both pins will power on/off the system. This button can also be configured to function as a suspend button (with a setting in the BIOS - see Chapter 4). To turn off the power when set to suspend mode, press the button for at least 4 seconds. Refer to the table on the right for pin definitions.

Power Button Pin Definitions (JF1)	
Pin#	Definition
1	Signal
2	+3V Standby



2-5 Connecting Cables

ATX Power Connector

There are a 24-pin main power supply connector(JPW3) and two 8-pin CPU PWR connectors (JPW1/JPW2) on the motherboard. These power connectors meet the SSI EPS 12V specification. For the 8-pin PWR (JPW1/JPW2), please refer to the item listed below.

ATX Power 24-pin Connector Pin Definitions

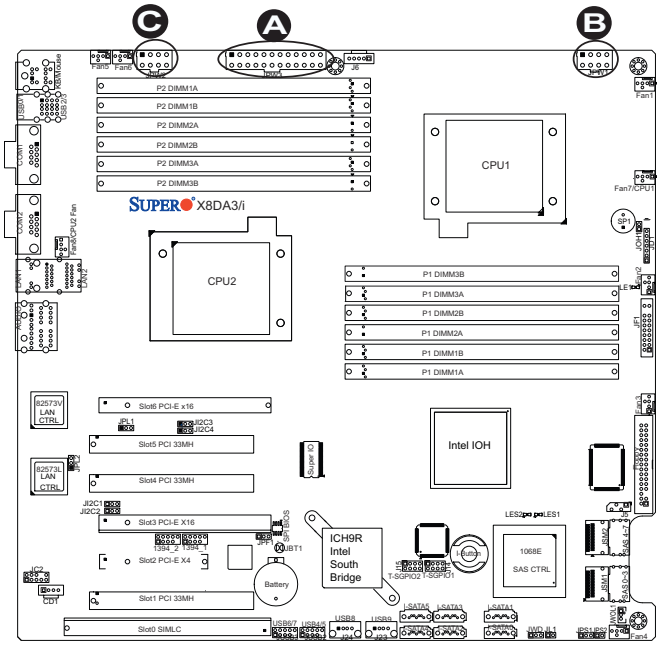
Pin#	Definition	Pin #	Definition
13	+3.3V	1	+3.3V
14	-12V	2	+3.3V
15	COM	3	COM
16	PS_ON	4	+5V
17	COM	5	COM
18	COM	6	+5V
19	COM	7	COM
20	Res (NC)	8	PWR_OK
21	+5V	9	5VSB
22	+5V	10	+12V
23	+5V	11	+12V
24	COM	12	+3.3V

Processor Power Connector

In addition to the Primary ATX power connector, the 12V 8-pin CPU PWR connectors at JPW1/JPW2 must also be connected to your power supply. See the table on the right for pin definitions.

12V 8-pin Power Connector Pin Definitions

Pins	Definition
1 through 4	Ground
5 through 8	+12V



A. 24-pin ATX PWR
B/C.8-pin Processor PWR

Universal Serial Bus (USB)

There are ten USB 2.0 (Universal Serial Bus) ports/headers on the motherboard. Back Panel USB Ports 0/1/2/3 are located at JUSB1. The other six are Front Panel Accessible USB headers. USB 4/5 (JUSB 2), USB 6/7 (JUSB 3), USB 8 (J24) and USB 9 (J23) provide front panel USB access. See the tables on the right for pin definitions.

Back Panel USB (USB0/1/2/3)

Pin#	Definitions
1	+5V
2	PO-
3	PO+
4	Ground
5	N/A

Front Panel USB (USB8/9)

Pin#	Definition
1	Vcc
2	Data-
3	Data+
4	Ground
5	NA

Front Panel USB Pin Definitions (USB4/5/6/7)

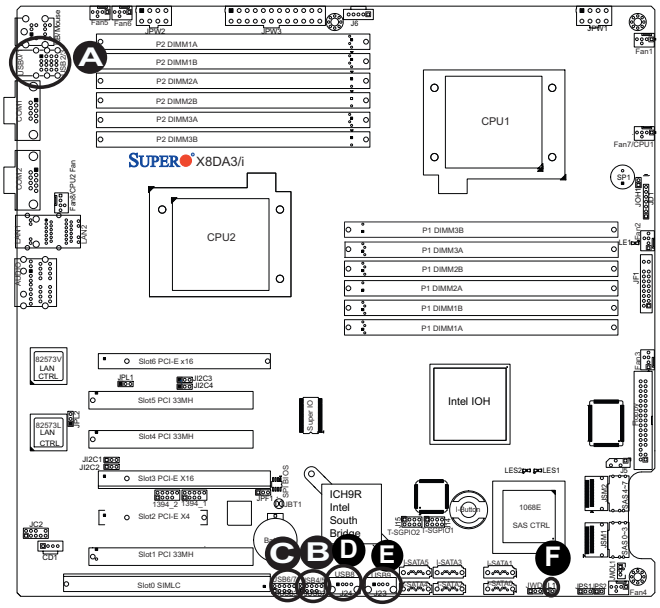
USB4/6 Pin #	USB4/6 Definition	USB5/7 Pin #	USB5/7 Definition
1	+5V	1	+5V
2	PO-	2	PO-
3	PO+	3	PO+
4	Ground	4	Ground
5	Key	5	No connection

Chassis Intrusion

A Chassis Intrusion header is located at JL1 on the motherboard. Attach an appropriate cable from the chassis to inform you of a chassis intrusion when the chassis is opened.

Chassis Intrusion Pin Definitions (JL1)

Pin#	Definition
1	Intrusion Input
2	Ground



A. Backpanel USB 0/1/2/3

B. Front Panel USB 4/5

C. Front Panel USB 6/7

D. Front Panel USB 8

E. Front Panel USB 9

F. Chassis Intrusion

Fan Headers

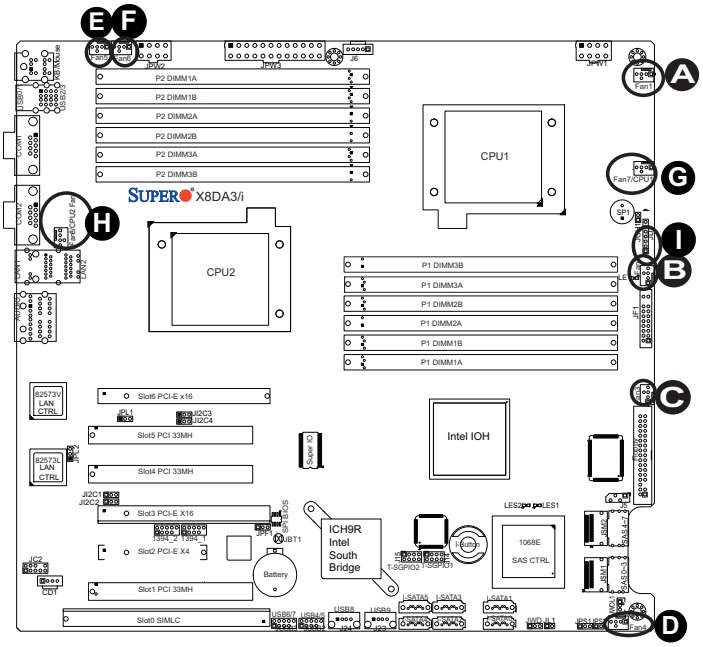
The X8DA3/X8DAi has six chassis/system fan headers (Fan1 to Fan6) and two CPU fans (Fan7/Fan8) on the motherboard. All these 4-pin fans headers are backward compatible with the traditional 3-pin fans. However, fan speed control is available for 4-pin fans only. The fan speeds are controlled by Thermal Management via Hardware Monitoring in the Advanced Setting in the BIOS. (The Default setting is Disabled.) See the table on the right for pin definitions.

Fan Header Pin Definitions	
Pin#	Definition
1	Ground
2	+12V
3	Tachometer
4	PWR Modulation

Power LED/Speaker

On the JD1 header, pins 1-3 are used for power LED indication, and pins 4-7 are for the speaker. See the table on the right for speaker pin definitions. Please note that the speaker connector pins (4-7) are for use with an external speaker. If you wish to use the onboard speaker, you should close pins 6-7 with a jumper.

Speaker Connector	
Pin Setting	Definition
Pins 6-7	Internal Speaker
Pins 4-7	External Speaker



A. Fan 1
B. Fan 2
C. Fan 3
D. Fan 4
E. Fan 5
F. Fan 6
G. Fan 7 (CPU1 Fan)
H. Fan 8 (CPU2 Fan)
I. PWR LED/Speaker

ATX PS/2 Keyboard and PS/2 Mouse Ports

The ATX PS/2 keyboard and the PS/2 mouse are located on the back panel. See the table on the right for pin definitions. (The mouse port is above the keyboard port. See the table on the right for pin definitions.)

PS/2 Keyboard and Mouse Port Pin Definitions

Pin#	Definition
1	Data
2	NC
3	Ground
4	VCC
5	Clock
6	NC

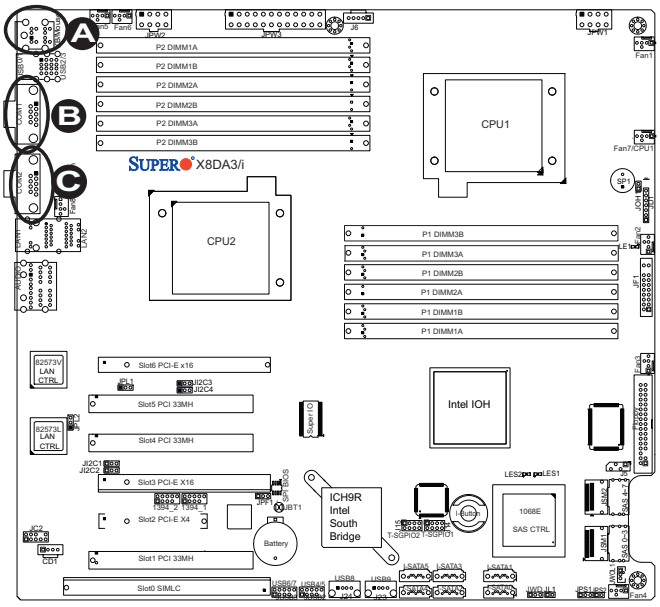
Serial Ports

COM1 and COM2 are serial connectors located on the I/O Backpanel. See the table on the right for pin definitions.

Serial Port Pin Definitions (COM1/COM2)

Pin #	Definition	Pin #	Definition
1	CDC	6	DSR
2	RXD	7	RTS
3	TXD	8	CTS
4	DTR	9	RI
5	Ground	10	NC

(NC: No Connection.)



A. Keyboard/Mouse

B. COM1

C. COM2

Wake-On-LAN

The Wake-On-LAN header is located at JWOL1 on the motherboard. You must also have a LAN card with a Wake-On-LAN connector and a cable to use this feature. See the table on the right for pin definitions.

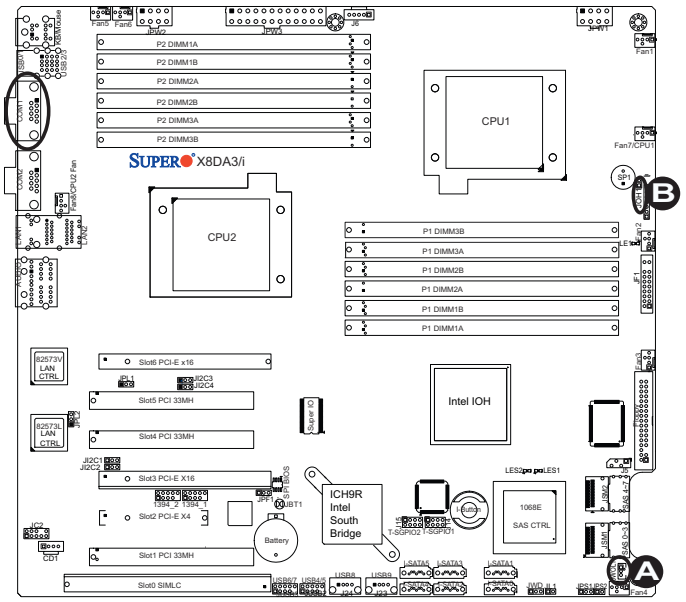
Wake-On-LAN Pin Definitions	
Pin#	Definition
1	+5V Standby
2	Ground
3	Wake-up

Overheat LED/Fan Fail (JOH1)

The JOH1 header is used to connect an LED indicator to provide warnings of chassis overheating or fan failure. This LED will blink when a fan failure occurs. Refer to the table on right for pin definitions.

Overheat LED Pin Definitions	
Pin#	Definition
1	5vDC
2	OH Active

OH/Fan Fail LED Pin Definitions	
State	Message
Solid	Overheat
Blinking	Fan Fail



A. Keyboard/Mouse

B. Overheat/Fan Fail LED

GLAN 1/2 (Giga-bit Ethernet Ports)

Two G-bit Ethernet ports are located on the I/O backplane. These ports accept RJ45 type cables.

GLAN2

GLAN1

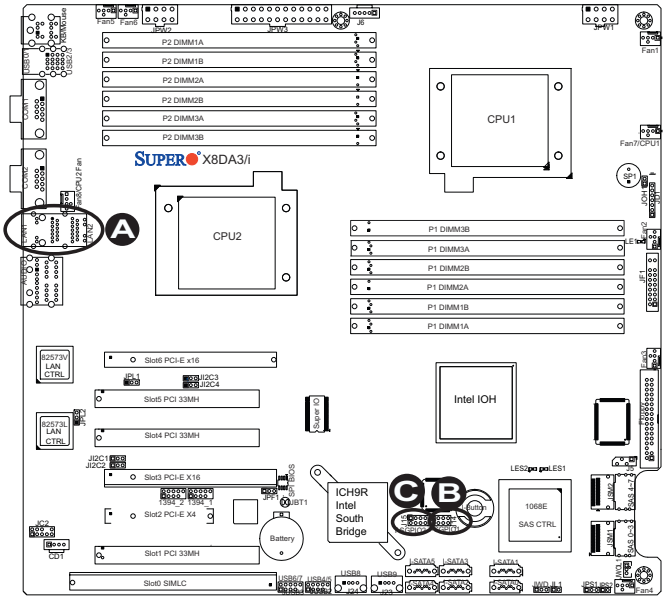
T-SGPIO Headers

Two SGPIO (Serial-Link General Purpose Input/Output) headers (T-SGPIO-1/T-SGPIO-2) are located at J14/J15 on the motherboard. These headers support serial link interfaces for the onboard SATA and SAS connectors. See the table on the right for pin definitions. Refer to the board layout below for the location.

T-SGPIO Pin Definitions

Pin#	Definition	Pin	Definition
1	NC	2	NC
3	Ground	4	Data
5	Load	6	Ground
7	NC	8	NC

Note: NC= No Connections



A. GLAN1/2

B. T-SGPIO-1

C. T-SGPIO-2

Power SMB (I²C) Connector

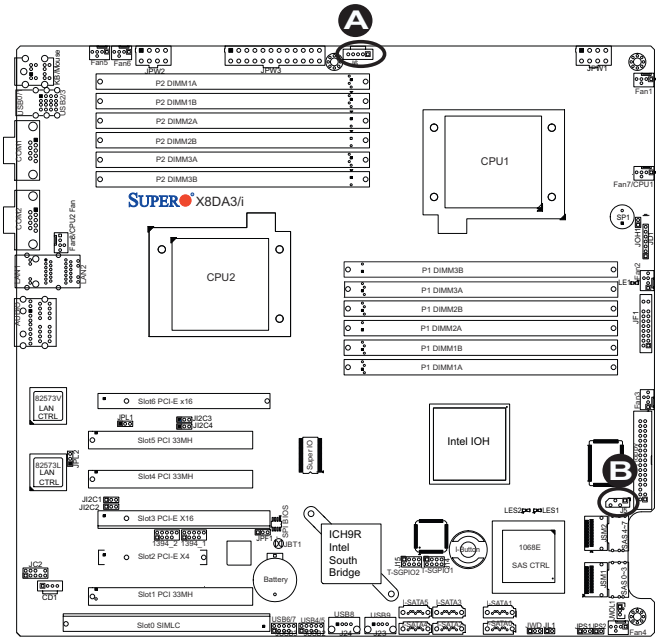
Power System Management Bus (I²C) Connector (J6) monitors power supply, fan and system temperatures. See the table on the right for pin definitions.

PWR SMB Pin Definitions	
Pin#	Definition
1	Clock
2	Data
3	PWR Fail
4	Ground
5	+3.3V

IPMB I²C SMB

A System Management Bus header for the IPMI slot is located at J5. Connect the appropriate cable here to use the IPMB I²C connection on your system.

SMB Header Pin Definitions	
Pin#	Definition
1	Data
2	Ground
3	Clock
4	No Connection

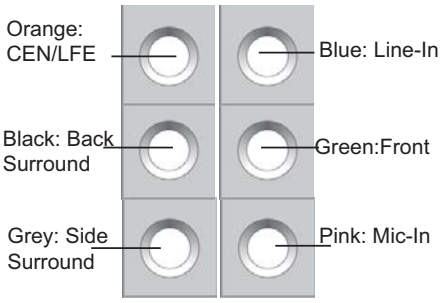


A. PWR SMB

B. IPMB SMB

High Definition Audio (HD Audio)

This motherboard features a 7.1+2 Channel High Definition Audio (HDA) codecs that provide 10DAC channels, simultaneously supporting 7.1 sound playback with 2 channels of independent stereo sound output (multiple streaming) through the front panel stereo out for front L&R, rear L&R, center and subwoofer speakers. Use the Advanced software included in the CD-ROM with your motherboard to enable this function.

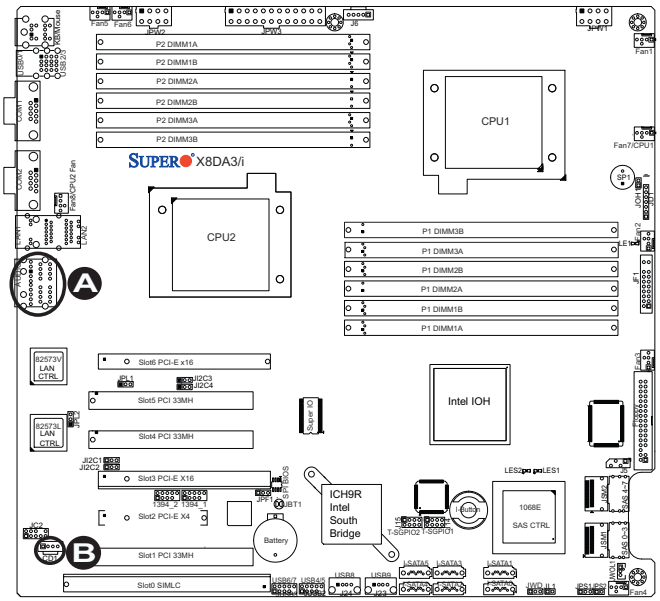


CD Header

There is a 4-pin CD header (CD1) and a Front Pane Accessible Audio header (JC2) on the motherboard. These headers allow you to use the onboard sound for audio CD playback. Connect an audio cable from your CD drive to the CD header that fits your cable's connector. Only one CD header can be used at a time. See the tables at right for pin definitions. (For details on FP Audio, please see the next page.)

CD1 Pin Definition

Pin#	Definition
1	Left
2	Ground
3	Ground
4	Right



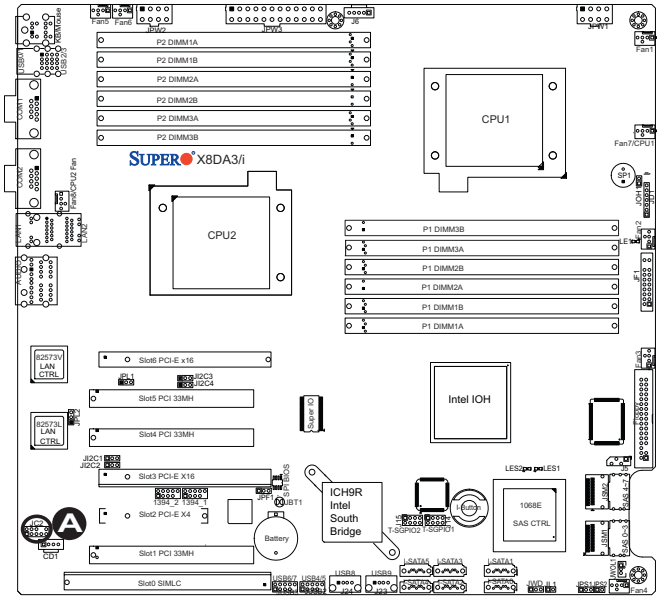
A. HD Audio

B. CD

Front Panel Audio

When front panel headphones are plugged in, the back panel audio output is disabled. This is done through the FP Audio header (JC2). If the front panel interface card is not connected to the front panel audio header, jumpers should be installed on the header (JC2) pin pairs: 1-2, 5-6, and 9-10. If these jumpers are not installed, the back panel line out connector will be disabled and microphone input Pin 1 will be left floating, which can lead to excessive back panel microphone noise and cross talk. See the table below for pin definitions.

High Definition Front Panel Audio	
Pins#	**Signal**
1	MIC_L
2	AUD_GND
3	MIC_R
4	FP_Audio-Detect
5	Line_2_R
6	Ground
7	FP_Jack-Detect
8	Key
9	Line_2_L
10	Ground

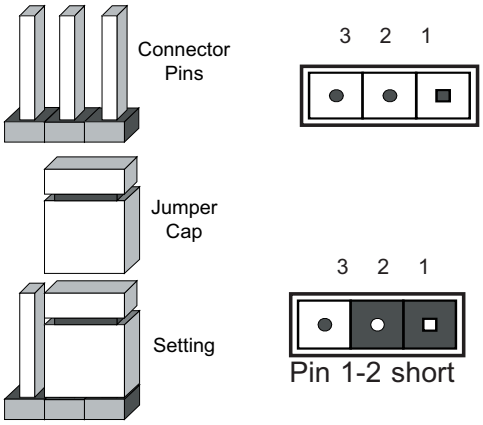


A. Front Panel Audio

2-6 Jumper Settings

Explanation of Jumpers

To modify the operation of the motherboard, jumpers can be used to choose between optional settings. Jumpers create shorts between two pins to change the function of the connector. Pin 1 is identified with a square solder pad on the printed circuit board. See the motherboard layout pages for jumper locations.

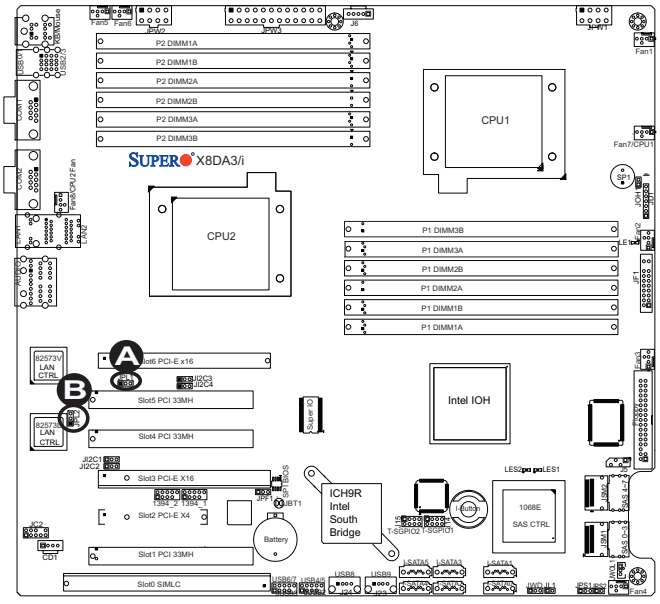


Note: On two pin jumpers, "Closed" means the jumper is on and "Open" means the jumper is off the pins.

GLAN Enable/Disable

JPL1/JPL2 enable or disable the GLAN Port1/GLAN Port2 on the motherboard. See the table on the right for jumper settings. The default setting is **Enabled.**

GLAN Enable Jumper Settings	
Pin#	Definition
1-2	Enabled (default)
2-3	Disabled



A. GLAN Port 1 Enable

B. GLAN Port 2 Enable

CMOS Clear

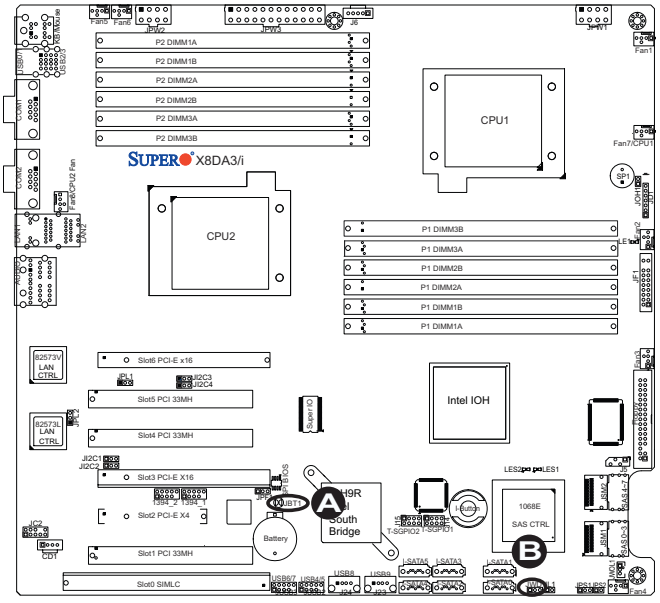
JBT1 is used to clear CMOS. Instead of pins, this "jumper" consists of contact pads to prevent the accidental clearing of CMOS. To clear CMOS, use a metal object such as a small screwdriver to touch both pads at the same time to short the connection. Always remove the AC power cord from the system before clearing CMOS.

Note: For an ATX power supply, you must completely shut down the system, remove the AC power cord and then short JBT1 to clear CMOS.

Watch Dog Enable/Disable

Watch Dog (JWD) is a system monitor that can reboot the system when a software application hangs. Close Pins 1-2 to reset the system if an application hangs. Close Pins 2-3 to generate a non-maskable interrupt signal for the application that hangs. See the table on the right for jumper settings. Watch Dog must also be enabled in the BIOS.

Watch Dog Jumper Settings (JWD)	
Jumper Setting	Definition
Pins 1-2	Reset (default)
Pins 2-3	NMI
Open	Disabled



A. Clear CMOS

B. Watch Dog Enable

I²C Bus to PCI-Exp. Slots

Jumpers JI²C1 and JI²C2 allow you to connect the System Management Bus (I²C) to PCI-Express slots. The default setting is Open to disable the connection. See the table on the right for jumper settings.

I²C to PCI-Exp Jumper Settings

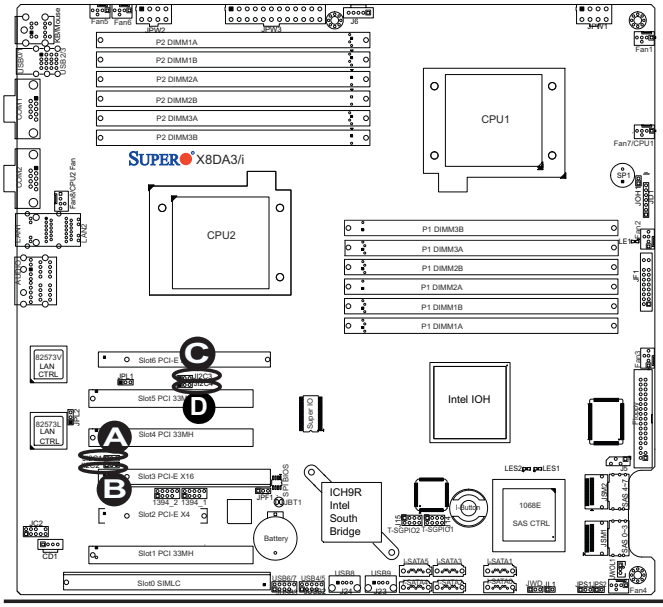
Jumper Setting	Definition
1-2	Enabled
2-3	Disabled (Default)

I²C Bus to PCI-X Slots

Jumpers JI²C3, and JI²C4 allow you to connect the System Management Bus (I²C) to PCI-X slots. The default setting is Open to disable the connection. See the table on the right for jumper settings.

I²C to PCI-X Jumper Settings

Jumper Setting	Definition
1-2	Enabled
2-3	Disabled (Default)



A. JI²C1
B. JI²C2
C. JI²C3
D. JI²C4

SAS Enable/Disable

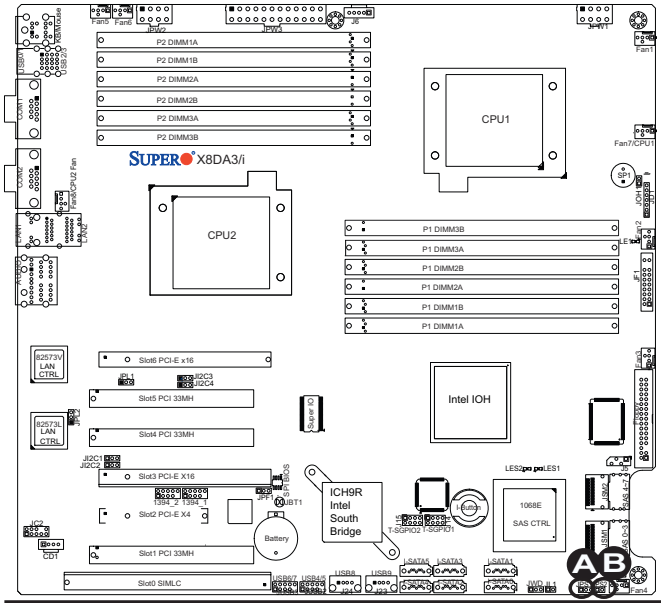
Jumper JPS1 allows you to enable or disable the onboard SAS connections. The default setting is Pins 1-2 to enable the connection. See the table on the right for jumper settings.

SAS Enable Jumper Settings	
Jumper Setting	Definition
1-2	SAS Enabled (Default)
2-3	SAS Disabled

SAS RAID Select

Jumper JPS2 allows you to select RAID Configuration settings for the onboard SAS connections. See the table on the right for jumper settings.

SAS RAID Config. Select Jumper Settings	
Jumper Setting	Definition
Open	Integrated Target Mode (IT)
Closed	Software RAID (SR)



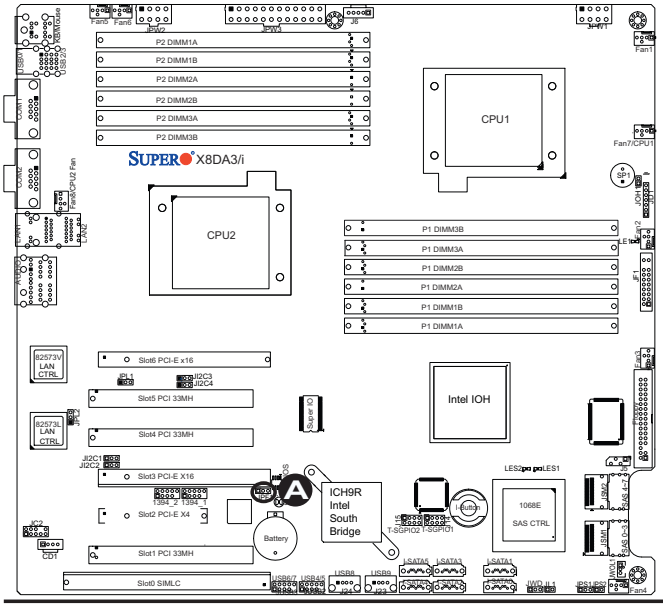
A. SAS Enable

B. SAS RAID Config. Select

1394_1/1394_2 Enable

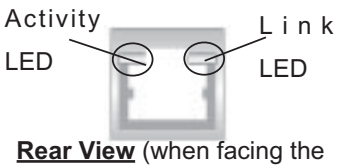
Jumper JPF1 allows you to enable or disable 1394_1/1394_2. The default setting is Pins 1-2 to enable the connection. See the table on the right for jumper settings.

1394 Enable Jumper Settings	
Jumper Setting	Definition
1-2	Normal (Default)
2-3	1394 Disabled



A. 1394_1/1394_2 Enable

2-7 Onboard Indicators



Rear View (when facing the rear side of the chassis)

GLAN LEDs

There are two GLAN ports on the motherboard. Each Gigabit Ethernet LAN port has two LEDs. The green LED indicates activity, while the Link LED may be green, amber or off to indicate the speed of the connection. See the tables at right for more information.

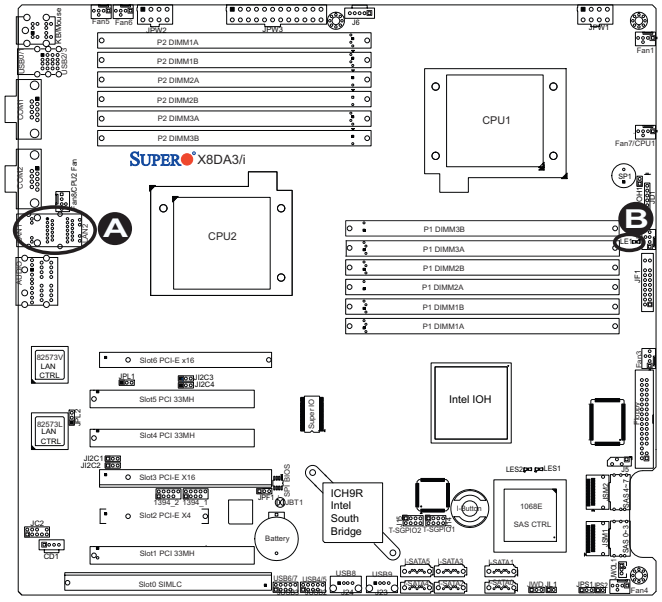
GLAN Activity Indicator LED Settings		
Color	Status	Definition
Green	Flashing	Active

GLAN Link Indicator LED Settings	
LED Color	Definition
Off	No Connection or 10 Mbps
Green	100 Mbps
Amber	1 Gbps

Onboard Power LED

An Onboard Power LED is located at LE1 on the motherboard. When this LED is lit, the system is on. Be sure to turn off the system and unplug the power cord before removing or installing components. See the tables at right for more information.

Onboard PWR LED Indicator (LE1)	
LED Color	Definition
Off	System Off (PWR cable not connected)
Green	System On
Green: Flashing Quickly	ACPI S1 State
Green: Flashing Slowly	ACPI S3 (STR) State



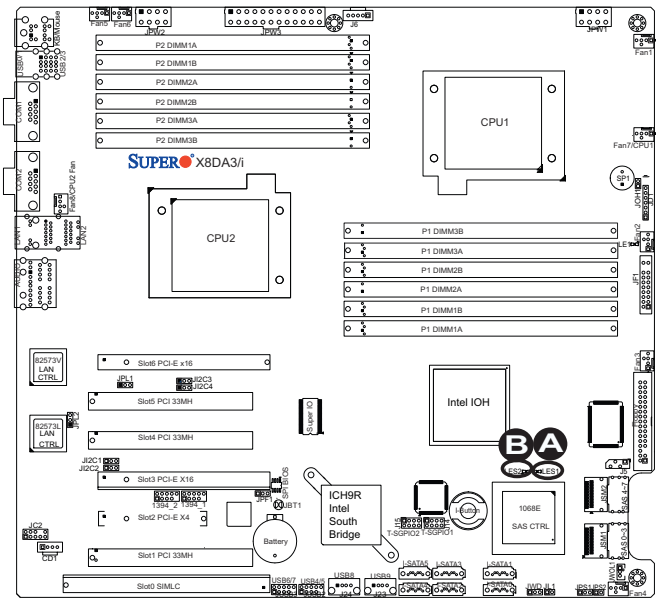
A. GLAN Port LEDs

B. Onboard Power LED

SAS LED Indicators

Two Onboard SAS LED are located at LES1/LES2 on the motherboard. When this LES1 is lit, SAS Connections 0~3 are active. When this LES2 is lit, SAS Connections 4~7 are active. See the tables at right for more information.

Onboard SAS LED Indicators (LES1/LES2) Settings	
LED Color	Definition
LES1	SAS#0~3: Active
LES2	SAS#4~7: Active



A. GLAN Port LEDs

B. Onboard Power LED

2-8 Floppy Drive, SIMLP, Serial ATA and Hard Disk Drive Connections

Note the following when connecting the floppy and hard disk drive cables:

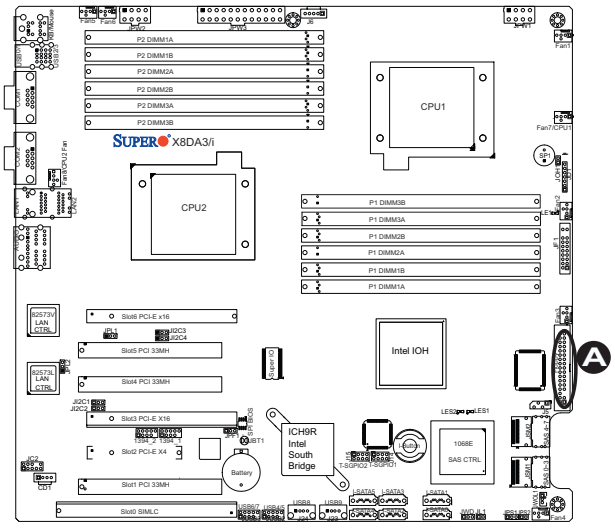
- The floppy disk drive cable has seven twisted wires.
- A red mark on a wire typically designates the location of pin 1.
- A single floppy disk drive ribbon cable has 34 wires and two connectors to provide for two floppy disk drives. The connector with twisted wires always connects to drive A, and the connector that does not have twisted wires always connects to drive B.

Floppy Connector

The floppy connector is located close to the Front Panel Control on the motherboard. See the table on the right for pin definitions.

Floppy Drive Connector Pin Definitions

Pin#	Definition	Pin #	Definition
1	Ground	2	FDHDIN
3	Ground	4	Reserved
5	Key	6	FDEDIN
7	Ground	8	Index
9	Ground	10	Motor Enable
11	Ground	12	Drive Select B
13	Ground	14	Drive Select B
15	Ground	16	Motor Enable
17	Ground	18	DIR
19	Ground	20	STEP
21	Ground	22	Write Data
23	Ground	24	Write Gate
25	Ground	26	Track 00
27	Ground	28	Write Protect
29	Ground	30	Read Data
31	Ground	32	Side 1 Select
33	Ground	34	Diskette



A. Floppy

Serial ATA Ports

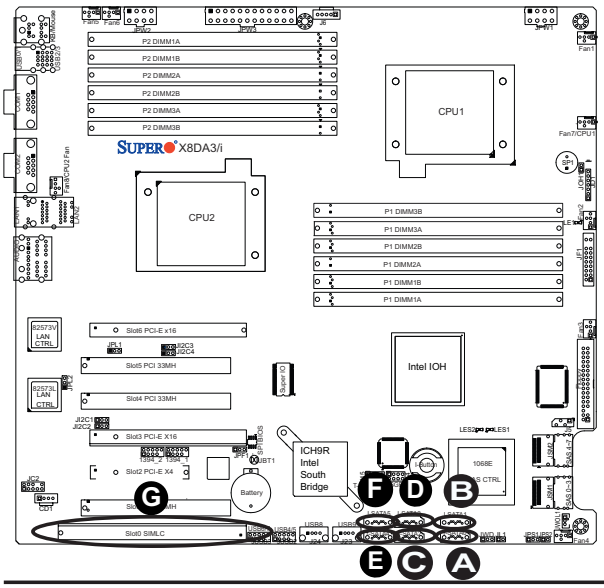
Six Serial ATA Ports (I-SATA0~I-SATA 5) are located at JS1~JS6 on the motherboard. These ports provide serial-link signal transmission, which is faster than that of the traditional Parallel ATA. See the table on the right for pin definitions.

Serial ATA Pin Definitions

Pin#	Definition
1	Ground
2	TX_P
3	TX_N
4	Ground
5	RX_N
6	RX_P
7	Ground

SIMLC IPMI Slot

The SIMLC IPMI (Supermicro Intelligent Management) Slot is located at Slot 0 on the motherboard. Refer to the layout below for the SIMLC IPMI Slot location.



A. I-SATA0
B. I-SATA1
C. I-SATA2
D. I-SATA3
E. I-SATA4
F. I-SATA5
G. SIMLC

Chapter 3

Troubleshooting

3-1 Troubleshooting Procedures

Use the following procedures to troubleshoot your system. If you have followed all of the procedures below and still need assistance, refer to the 'Technical Support Procedures' and/or 'Returning Merchandise for Service' section(s) in this chapter. Note: Always disconnect the power cord before adding, changing or installing any hardware components.

Before Power On

1. Make sure that there are no short circuits between the motherboard and chassis.
2. Disconnect all ribbon/wire cables from the motherboard, including those for the keyboard and mouse.
3. Remove all add-on cards.
4. Install CPU 1 first (making sure it is fully seated) and connect the chassis speaker and the power LED to the motherboard. (Check all jumper settings as well.)

No Power

1. Make sure that no short circuits between the motherboard and the chassis.
2. Make sure that all jumpers are set to their default positions.
3. Check that the 115V/230V switch on the power supply is properly set.
4. Turn the power switch on and off to test the system.
5. The battery on your motherboard may be old. Check to verify that it still supplies ~3VDC. If it does not, replace it with a new one.

No Video

1. If the power is on but you have no video, remove all the add-on cards and cables.

2. Use the speaker to determine if any beep codes exist. Refer to the Appendix for details on beep codes.

Losing the System's Setup Configuration

1. Make sure that you are using a high quality power supply. A poor quality power supply may cause the system to lose the CMOS setup information. Refer to Section 1-6 for details on recommended power supplies.

2. The battery on your motherboard may be old. Check to verify that it still supplies ~3VDC. If it does not, replace it with a new one.

3. If the above steps do not fix the Setup Configuration problem, contact your vendor for repairs.

Memory Errors

1. Make sure that the DIMM modules are properly and fully installed.

2. Check if different speeds of DIMMs have been installed and check if the BIOS setup is configured for the fastest speed of RAM used. (It is recommended to use the same RAM speed for all DIMMs in the system.)

3. Make sure you are using the correct type of DDR3 Registered ECC 1333 MHz/1066 MHz/800 MHz SDRAM (recommended by the manufacturer.)

4. Check for bad DIMM modules or slots by swapping a single module between all memory slots and check the results.

5. Make sure that all memory modules are fully seated in their slots. Make sure to follow the instructions given on DIMM population in Section 2-3 in Chapter 2.

6. Check the position of the 115V/230V switch on the power supply.

3-2 Technical Support Procedures

Before contacting Technical Support, please take the following steps. Also, please note that as a motherboard manufacturer, Supermicro does not sell directly to end-users, so it is best to first check with your distributor or reseller for troubleshooting services. They should know of any possible problem(s) with the specific system configuration that was sold to you.

1. Please go through the 'Troubleshooting Procedures' and 'Frequently Asked Question' (FAQ) sections in this chapter or see the FAQs on our web site (http://www.supermicro.com/support/faqs/) before contacting Technical Support.

2. BIOS upgrades can be downloaded from our web site at (http://www.supermicro.com/support/bios/).

3. If you still cannot resolve the problem, include the following information when contacting Supermicro for technical support:

- Motherboard model and PCB revision number
- BIOS release date/version (this can be seen on the initial display when your system first boots up)
- System configuration
- An example of a Technical Support form is on our web site at (http://www.supermicro.com/support/contact.cfm).
- Distributors: For immediate assistance, please have your account number ready when placing a call to our technical support department. We can be reached by e-mail at support@supermicro.com or by fax at: (408) 503-8000, option 2.

3-3 Frequently Asked Questions

Question: What are the various types of memory that my motherboard can support?

Answer: The X8DA3/X8DAi has 12 240-pin DIMM slots that support DDR3 Registered ECC 1333 MHz/1066 MHz/800 MHz SDRAM modules. It is strongly recommended that you do not mix memory modules of different speeds and sizes. Please follow all memory installation instructions given on Section 2-3 in Chapter 2.

Question: How do I update my BIOS?

Answer: It is recommended that you **do not** upgrade your BIOS if you are not experiencing any problems with your system. Updated BIOS files are located on our web site at (http://www.supermicro.com/support/bios/). Please check our BIOS warning message and the information on how to update your BIOS on our web site. Also, check the current BIOS revision and make sure it is newer than your BIOS before downloading. Select your motherboard model and download the BIOS file to your computer. Unzip the BIOS files onto a bootable floppy and reboot your system. Follow the Readme.txt to continue flashing the BIOS.

Warning: Do not shut down or reset the system while updating the BIOS to prevent possible system boot failure!)

Note: The SPI BIOS chip used on this motherboard cannot be removed. Send your motherboard back to our RMA Department at Supermicro for repair.

Question: What's on the CD that came with my motherboard?

Answer: The supplied compact disc has quite a few drivers and programs that will greatly enhance your system. We recommend that you review the CD and install the applications you need. Applications on the CD include chipset drivers for the Windows OS, security and audio drivers.

3-4 Returning Merchandise for Service

A receipt or copy of your invoice marked with the date of purchase is required before any warranty service will be rendered. You can obtain service by calling your vendor for a Returned Merchandise Authorization (RMA) number. When returning to the manufacturer, the RMA number should be prominently displayed on the outside of the shipping carton, and mailed prepaid or hand-carried. Shipping and handling charges will be applied for all orders that must be mailed when service is complete.

This warranty only covers normal consumer use and does not cover damages incurred in shipping or from failure due to the alternation, misuse, abuse or improper maintenance of products.

During the warranty period, contact your distributor first for any product problems.

Appendix A

BIOS POST Error Codes

This section lists the POST (Power On Self Test) codes for the AMI BIOS. POST codes are divided into two categories: recoverable and terminal.

Recoverable POST Errors

When a recoverable type of error occurs during POST, the BIOS will display an POST code that describes the problem. BIOS may also issue one of the following beep codes:

6 Beeps-Memory Errors **(To be updated)**

8 Beeps-VGA Errors

Notes

Appendix B

Installing the Windows OS

After all hardware components have been installed, you must first configure Intel South Bridge RAID Settings before you install the Windows OS and other software drivers. To configure RAID settings, please refer to RAID Configuration User Guides posted on our web site at www.supermicro.com/support/manuals.

Installing the Windows XP/2000/2003 OS for Systems with RAID Functions

1. Insert Microsoft's Windows XP/2000/2003 Setup CD in the CD Driver, and the system will start booting up from CD.

2. Press the <F6> key when the message-" Press F6 if you need to install a third party SCSI or RAID driver" displays.

3. When the Windows XP/2000/2003 Setup screen appears, press "S" to specify additional device(s).

4. Insert the driver diskette-"Intel AA RAID XP/2000/2003 Driver for ICH9R" into Drive A: and press the <Enter> key.

5. Choose the Intel(R) ICH9R *SATA RAID Controller* from the list indicated in the XP/2000/2003 Setup Screen, and press the <Enter> key.

6. Press the <Enter> key to continue the installation process. (If you need to specify any additional devices to be installed, do it at this time.) Once all devices are specified, press the <Enter> key to continue with the installation.

7. From the Windows XP/2000/2003 Setup screen, press the <Enter> key. The XP/2000/2003 Setup will automatically load all device files and then, continue the Windows XP/2000/2003 installation.

8. After the Windows XP/2000/2003 OS Installation is completed, the system will automatically reboot.

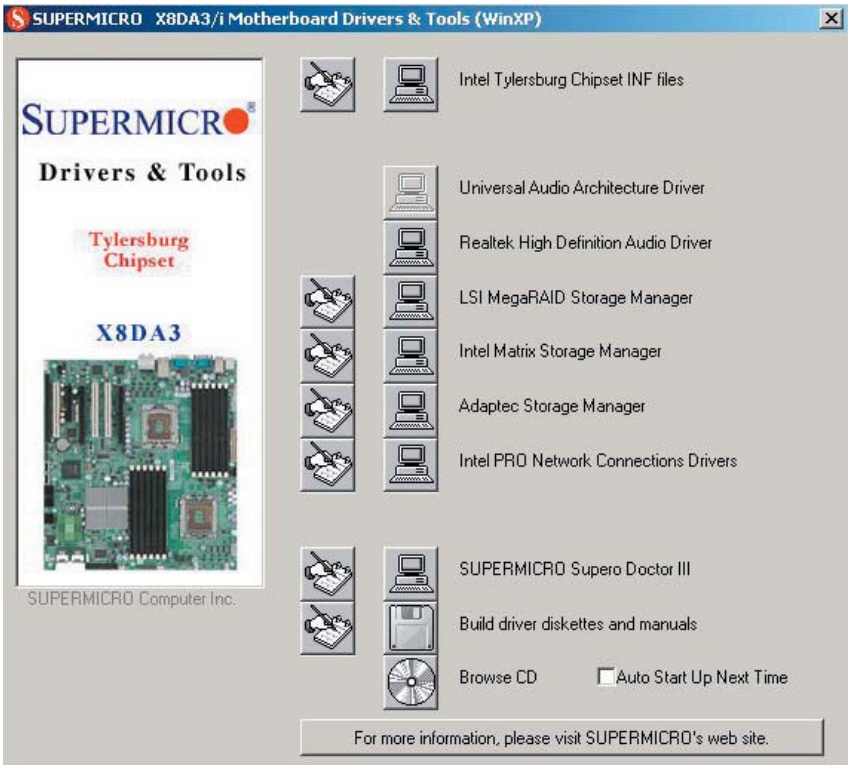
Notes

Appendix C

Software Installation Instructions

C-1 Installing Software Programs

After you've installed the Windows Operating System, a screen as shown below will appear. You are ready to install software programs and drivers that have not yet been installed. To install these software programs and drivers, click the icons to the right of these items.



Driver/Tool Installation Display Screen

Note: Click the icons showing a hand writing on the paper to view the readme files for each item. Click on a computer icon to the right of an item to install an item (from top to the bottom) one at a time. After installing each item, you must re-boot the system before proceeding with the next item on the list. The bottom icon with a CD on it allows you to view the entire contents of the CD.

C-2 Configuring Supero Doctor III

The Supero Doctor III program is a Web-base management tool that supports remote management capability. It includes Remote and Local Management tools. The local management is called the SD III Client. The Supero Doctor III program included on the CDROM that came with your motherboard allows you to monitor the environment and operations of your system. Supero Doctor III displays crucial system information such as CPU temperature, system voltages and fan status. See the Figure below for a display of the Supero Doctor III interface.

Note: 1 The default user name and password are ADMIN.

Note 2: In the Windows OS environment, the Supero Doctor III settings take precedence over the BIOS settings. When first installed, Supero Doctor III adopts the temperature threshold settings previously set in BIOS. Any subsequent changes to these thresholds must be made within Supero Doctor, since the SD III settings override the BIOS settings. For the Windows OS to adopt the BIOS temperature threshold settings, please change the SDIII settings to be the same as those set in BIOS.

Supero Doctor III Interface Display Screen-I (Health Information)

Supero Doctor III Interface Display Screen-II (Remote Control)

Super Doctor III
Remote Management
SUPERMICRO
Remote Control
Graceful Power Control
Open Console
Power Control
Enter
Graceful power control
Supero Doctor III allows a user to inform the OS to reboot or shut down within a specified time (the default is 30 seconds). Before the system reboots or shuts down, it's allowed to cancel the action.
Requirements
Keep Supero SD3Service Daemon running at all times on this system.
Provide TCP/IP connectivity.
Power control

Note: SD III Software Revision 1.0 can be downloaded from our Web site at: ftp://ftp.supermicro.com/utility/Supero_Doctor_III/. You can also download SDIII User's Guide at: http://www.supermicro.com/PRODUCT/Manuals/SDIII/UserGuide.pdf. For Linux, we will still recommend that you use Supero Doctor II.

Notes